Waste-based feedstock and biodiesel market in the EU: how new regulations may influence the market
WASTE-BASED FEEDSTOCK AND BIODIESEL MARKET
Demand for DC biodiesel keeps growing due to increasing mandates.

**THEORETICAL WASTE-BASED BIODIESEL DEMAND IN EUROPE**

- **2017**: 2,960,000
- **2018 (est.)**: 3,290,000
- **2020 (est.)**: 4,000,000

**+11%**

**+22%**

**THEORETICAL UCOME DEMAND AND PRODUCTION IN EUROPE IN 2018 (EST.)**

- **UCOME production**: 1,700,000
- **UCOME import**: 700,000
- **UCOME demand**: 2,400,000

Of UCOME demand in the EU in 2018 should to be imported if the demand reaches 2,400,000. We estimate the potential import around 500,000 MT.

29%
China becomes key supplier for the EU – risk or opportunity?

**UCO SUPPLY AND DEMAND IN THE EU**

- EU needs to import around 50% of its demand!
- UCO demand in 2018 (Est.): 1,700,000
- Necessary import: 850,000
- UCO resources in the EU: 850,000

**UCO AND UCOME IMPORT FROM CHINA**

- Of UCO imported to the EU in 2017 came from China!
- 30%

Europe increasingly relies on China for their UCO supply, which may be a risky strategy in case the country decides to use the oil locally, for example.
What happened on the market in the last months?

In Q1 2018, EU imported around 300,000 MT of SME from Argentina.

However, the EU reopened the investigation of possible subsidies for Argentinian producers following a claim by EBB.

Reopening of the EU market to Argentinian SME and Indonesian PME, falling prices of veg-oil complex and good crop projections for 2018 are weighting on the prices of FAME 0°C.

Since November 2017, the Euro has been continuously strengthening against the USD.

This helped to limit the fall in prices on the UCO and UCOME import market.

Starting from March 16, 2018, Europe reopened its doors to PME imports from Indonesia.

Will the imports go up to the volumes from 2012?
Back to high competition from 2012

POTENTIAL SCENARIO OF BIODIESEL TRADE ROUTES IN 2018

ARGENTINA 800,000 MT
CHINA 300,000 MT
HK + TAIWAN 100,000 MT
KOREA 50,000 MT
MALAYSIA 380,000 MT
INDONESIA 500,000 MT
INDIA 50,000 MT

2012: 2.640.000
2013 - 2017 avg. per year: 400.000
2018 (Est.): ?

BIODIESEL IMPORT TO EU

2.180.000
Advanced biofuels: regulation vs. reality

The EU is committed to developing new technologies and new types of renewable feedstock in order to reduce the use of crop-based biofuels. However, not all feedstock types included in RED II proposal are equally available.

**CRUDE GLYCERINE**
Glycerine is a by-product thus its supply does not depend on the demand, which is already high. No additional volumes of the product are available. It is interesting for biomethanol production but the market is currently dominated by one player only.

**POME**
POME is a residue of palm oil production, thus, it is feedstock that needs to be imported. Wouldn’t it be better to promote local feedstock types instead?

**TALL OIL**
It is a by-product of paper industry. It is already being used for HVO production on a commercial scale but resources are still available, especially in the Nordic countries.

**SEWAGE SLUDGE**
One of the most interesting feedstock types in the terms of availability and local impact. However, the feedstock quality is low and the biodiesel production process is very costly.

**ALGAE**
Cultivation of such feedstock types as algae is only at the early stages of development and the supply is currently marginal.

**SPENT BLEACHING EARTH**
Also a by-product, thus without the possibility to influence the supply.
Market challenges in the next few years

- Development of the HVO sector as more players join the market
- Finding replacement feedstock in case palm oil is banned in the EU after 2021
- Increasing production of UCOME in Asia: less UCO available for export
- Implementation of B5 mandate in China could limit the biodiesel export
- Imports of SME and PME to the EU will challenge local producers; new barriers might be set up
- Mandate increase in Holland and in the UK; introduction of DC in Spain
- Development of new advanced feedstock types from RED II
- Possible trade war between USA and China could influence veg-oil and biodiesel prices

What will next years bring?
WHY GREENEA?
What do we do at Greenea?

**BROKERAGE**

10 YEARS OF EXPERIENCE ON THE BIOENERGY MARKET

As a pioneer on the market of waste-based feedstock and biodiesel, we have a privileged contact with a vast number of suppliers: biodiesel producers, refiners, electricity suppliers and biomass traders.

**CONSULTING**

CONSULTING SERVICES FOR THE WASTE-BASED MARKET

Personalised approach to every mission! Thanks to our knowledge of the market and our expertise (preparation of development strategies, pricing, etc.) we offer efficient solutions cut-out to match a given issue.

- **2007** date of establishment of Greenea
- **20%** average annual growth since 2010
- **85%** of the turnover comes from outside of France
- **50** countries in which we are active
- **700** transactions per year
- **80%** of negotiated products are waste-based
## Products we cover

<table>
<thead>
<tr>
<th>FEEDSTOCK</th>
<th>WASTE-BASED PRODUCTS</th>
<th>CONVENTIONAL PRODUCTS</th>
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<tbody>
<tr>
<td></td>
<td>• Used cooking oil</td>
<td>• Rapeseed oil</td>
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<tr>
<td></td>
<td>• Animal fat cat 1 and 2</td>
<td>• Soybean oil</td>
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<tr>
<td></td>
<td>• Animal fat cat 3</td>
<td>• Palm oil</td>
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<tr>
<td></td>
<td>• Fatty acids and acid oil</td>
<td>• Refined palm oil</td>
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<tr>
<td></td>
<td>• Palm oil mill effluent (POME)</td>
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</tbody>
</table>

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<tr>
<th>BIOFUELS</th>
<th>WASTE-BASED PRODUCTS</th>
<th>CONVENTIONAL PRODUCTS</th>
<th>ADVANCED PRODUCTS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• UCOME biodiesel</td>
<td>• FAME 0°C</td>
<td>• HVO</td>
</tr>
<tr>
<td></td>
<td>• TME biodiesel</td>
<td>• RME</td>
<td>• Cellulosic ethanol</td>
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<td></td>
<td>• POME biodiesel</td>
<td>• SME</td>
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<tr>
<td></td>
<td></td>
<td>• PME</td>
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<td></td>
<td></td>
<td>• Ethanol</td>
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<tr>
<th>BY-PRODUCTS</th>
<th>WASTE-BASED PRODUCTS</th>
<th>CONVENTIONAL PRODUCTS</th>
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<tbody>
<tr>
<td></td>
<td>• Crude glycerin</td>
<td>• 80% Kosher glycerin</td>
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<tr>
<td></td>
<td>• Refined glycerin</td>
<td>• Refined pharma glycerin</td>
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<tr>
<td></td>
<td>• Bio-heating oil</td>
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</tbody>
</table>
With whom do we work?

- UCO Collectors
- Animal Fat Producers
- Biodiesel and Ethanol Producers
- Fuel Distributors
- Biogas Producers
- Traders
- Biomass Producers
- Renewable Energy Producers
- HVO Producers

We are active in 50 countries around the world.
Contact details and disclaimer

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Your broker for waste-based feedstock & biodiesel

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